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REMARKS

ON

ABDOMINAL SECTION

WITH THE

HISTORIES OF FIFTEEN CASES.

— BY —

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HISTORY OF FIFTEEN CASES

—OF—

ABDOMINAL SECTION

WITH REMARKS UPON THE

METHODS OF FOREIGN OPERATORS.*

By JOS. TABER JOHNSON, A. M., M. D.,

WASHINGTON, D. C.

Mr. President and Gentlemen:

So much has been written lately upon the subject of ovariotomy, that it is prophesied by very high authority that an apology will soon be expected from any one introducing this subject to an intelligent audience of medical men. Thus Mr. Lawson Tait says† in his recent report of 139 consecutive ovariotomies, without a death, performed between January 1st, 1884, and December 31st, 1885, that, "from our recent experience in ovariotomy, it would almost appear as if the time had arrived when we had the last word to say about it, and had now merely to refer to it occasionally in valedictory or inaugural addresses as one of the marvels of the nineteenth century."

But this subject is not a "closed chapter" to the majority of operators. While a few of the great experts of the world have reduced their mortality to 5 per cent. and less, and Mr. Tait's last report of 139 consecutive cases shows no mortality

*Read by invitation before the Medical Society of Virginia, October 28th, 1886, at Fredericksburg, Va., during its Seventeenth Annual Session.

†*British Medical Journal*, May 15th, 1886.

whatever, many of us have some very important lessons yet to learn before we can make equally favorable reports. The great apostle of ovariotomy nine years ago was doing this operation in London with a mortality of 23 per cent., but he recently reports in his book,* that he had reduced that mortality to less than 10 per cent.

The gradual reduction of the death rate of this operation has resulted from a combination of causes familiar to every student of abdominal surgery. That an impulse was given to laparotomy by the adoption of some of the modified forms of Listerism is an accepted fact. That the proportion of recoveries has been greater since the clamp has been abandoned, and the ligature and the intra-abdominal treatment of the pedicle substituted in its place, all will admit. Those who do not practice antiseptic surgery apply the principle of "perfect cleanliness," and "disease germs" are thus shut out of the abdominal cavity just as certainly as if their operations were conducted under clouds of spray. Or, to state it another way, Mr. Tait and Dr. Keith, who discard Listerism, get the best of results; but any one watching their operations must be impressed by the fact that they are very clean surgeons, and that none but the cleanest of knives, forceps, sponges and fingers are allowed in the abdominal cavity, and as few of them as possible.

A student of abdominal surgery is impressed with the variable results of operations within the abdominal cavity, reported by different operators, who, one would anticipate, would have about the same results. Every detail in the technique of these operations has been published, and so much discussed in journals and societies, that, as I stated in the beginning, the subject is regarded by a distinguished operator as a closed chapter, and yet these disparities exist. One of the objects of this paper is to suggest an answer to the oft-repeated question as to why some foreign operators obtain the best results. Probably the shortest answer would be, because they are the best operators. I do not believe the bulk of British or Continental surgeons to be any better than the bulk of American surgeons. Indeed, I feel perfectly certain

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that, with the experience gained by our surgeons in the late war, that in dexterity of operating, fruitfulness of expedients, readiness for emergencies, and in proving equal to them when they arise, American surgeons lead the world.

It is generally believed however, that one's skill and manipulative dexterity increases with his experience; that one can do his second dozen ovariotomies better than he did his first dozen; and when it comes to abdominal sections by the hundred, statistics prove that a greater success follows, as experience in all the great number of details (which go to make up success) increases. This is shown at a glance by the tables presented by Sir Spencer Wells in reporting his 1,000 cases of ovariotomy; although it is, of course, admitted that improvements have occurred in that time which have aided much in reducing mortality. In Sir Spencer Wells'

First	100	cases,	66	recovered	and	34 died.
Second	"		72	"	"	28 "
Third	"		77	"	"	23 "
Fourth	"		78	"	"	22 "
Fifth	"		80	"	"	20 "
Sixth	"		71	"	"	29 "
Seventh	"		76	"	"	24 "
Eighth	"		76	"	"	24 "
Ninth	"		83	"	"	17 "
Tenth	"		89	"	"	11 "

thus giving a general mortality in the 1,000 cases of 23.2 per cent.—there being thirty-four deaths in the first 100 operations, and but eleven in the tenth hundred. With the exception of the sixth series of hundred cases, the mortality lessened with each report.

The point I am demonstrating is perhaps more clearly shown by another of Sir Spencer's tables on the same page of his recent book, viz.: By dividing the twenty years in which these 1,000 operations were performed into four periods of five years each, it is shown that in the first five years about one in three died; in the second and third five years about one in four died; in the fourth five years about one in five died; last two years about one in ten died.

In speaking of the watchful care of his patients, during

and after operations, which he considered necessary to protect them from infection, he says:

"I contended that obstetrics and operative surgery should seldom be permitted in the same building, or by the same surgeon in private practice; and that such an operation as ovariotomy should never be performed where patients with uterine cancer, or offensive discharges of any kind may pollute the place. In 1875, a separate branch of the Samaritan Hospital was opened, and since that year the surgical wards have been much freer from such sources of danger. The good effects of this change were noted before other antiseptic measures were insisted on, and to such an extent that the death-rate, after my operations, was reduced one-half."

In speaking again on this point, on page 61, he says, "So that twenty years' experience may fairly be said to have reduced the mortality of the operations upon my uncontaminated patients to 3.6 per cent."

And again, as showing how the success of this operation was marred by infection, he says: "Among my 81 private cases during the same time (1876–77), 5 deaths were more or less directly connected with the operation, and 17 were from communicated septicæmia."

I must add another quotation as a part of my explanation of Sir Spencer Wells' success in bringing down his mortality from 34 per cent. with his first hundred cases, to 11 per cent. in his tenth hundred, and in 247 operations later on, to 10.9 per cent.:

"And this, too, as an additional security to my patients. I have never made a post-mortem examination; have been free from all but the most casual contact with hospital influences; have never carried about with me the infections picked up in general practice, and having had fewer persons present at my operations, have eliminated a great part of an incalculable source of danger."

Dr. Thomas Keith reported, on December 17th, 1884, that he had, up to that time, performed 490 ovariotomies, with a death-rate of 9.11 per cent. His mortality has since been reduced to 3 per cent.

If asked, how do I account for his wonderful success? I should answer briefly, because he is a wonderful operator. If asked again, how I account for his being such a wonderful operator? I should say, in regard to him as was said of

the man who had the neatest necktie in his city, that he put his entire mind upon it. Keith devotes all his surgical powers and resources to abdominal surgery. He does little else, and consequently comes in contact with few of the infectious influences which the general surgeon meets with in his operations upon infected patients.

Pean, in October, 1881, reported 306 ovariotomies with 61 deaths. But Wells remarks of Pean, that "it has been the same with him as with most other surgeons—that his latest work was his best; for out of the last 100 ovariotomies there had been only fourteen bad results."

Schrœder, on November 30th, 1884, wrote Mr. Wells that he had up to that date performed 514 ovariotomies. He lost 17 cases out of his first 100; but as his experience increased, he lost only 7 out of his fifth 100.

So with Professor Nussbaum, of Munich. Up to November, 1884, he had performed a total of 415 ovariotomies. Out of his first 100 operations, 37 patients died, but as his skill increased he was able to do the last 115 operations with only 10 deaths.

So also with Professor Olshausen, of Halle, who, writing on December 26th, 1884, says that he has performed 270 ovariotomies. Of the first 170 twenty-four died; of the last 100 only four died.

Professor Billroth, the great general surgeon of Vienna, up to the end of December, 1884, had done 327 ovariotomies, with a total mortality of 31.5 per cent. Billroth says in a communication to Mr. Wells: "My opinion is as follows: Granted that the operation is well done, and that the patient does not die within about twenty-four hours from loss of blood or shock (which has occurred to me only four times in 224 cases), the result depends upon whether sponges, fingers, instruments, secretions, and above all, the ligature threads are clean. If this be so, all get well." This seems to be almost an admission from this great surgeon, who is doing so many wonderful cancer operations, and other masterly feats in general surgery, that he has neglected the very precautions which he declares and which all ovariotomists everywhere admit, are essential to success, as his mortality is higher than that of almost any other celebrated surgeon.

The first 100 ovariotomies done in Italy resulted in the death of sixty-three patients, but in the fifth 100, completed in June, 1884, there were only twenty-three deaths. I have good authority for the statement that the sixty-three deaths in the 100 ovariotomies referred to, was the work of forty different operators, giving an average of two-and-one-half cases to each surgeon. I heard it suggested while abroad this summer that Peruzzi might have stated this *as the mortality of the operators*, and not of the operation, and that no better results could be expected where so many inexperienced men were performing capital operations, which should have been sent to experts in abdominal surgery, who, with their greater skill, gained from constant experience, could have saved over 90 per cent. instead of unnecessarily losing 63 per cent.

Goodell, in his article on ovarian tumors, says* upon this subject: "In no other operation does the issue depend so largely upon the experience of the surgeon. Every ovariotomist finds that his success grows with the number of his cases;" and cites the early practice of some of the most successful men of to-day in proof of this assertion. Thus, Lawson Tait, whose mortality is now stated at only three per cent, and who recently had a run of 146 cases without a single death, lost *nineteen* patients out of his first fifty operations. Keith, who began with a mortality of about twenty per cent., has lately had a series of 100 cases with 97 recoveries. Goodell, who at first lost about one in every three cases operated on, states, in his last twenty-two cases, there was but one death, and that occurred in a lady operated on at her home too distant for him to see her again.

I will not fatigue the Society with further statistics in support of my suggestion—that the operators who are getting the best results in abdominal surgery are the best operators. I have endeavored to show that the best results reported have been achieved only after long and bitter and bloody experience, and by the strictest attention to a number of details, minute though many of them may be, yet necessary to success.

Some one has well stated that success in ovariotomy is

* Pepper's *System of Medicine*, page 314, Vol. IV.

made up of attention to many little things, the neglect of any one of which may prove fatal. Ovariotomy in Great Britain is largely in the hands of four men, who are doing nearly all this work—viz., Thornton and Bantock, at the Samaritan Hospital, in London, Tait, in the centre of England, in Birmingham, and Keith, in Edinboro. Sir Spencer Wells resigned from the Samaritan Hospital in 1878, after twenty years' service, is now over 70 years of age, and is doing comparatively few operations. British physicians and surgeons recognize the fact that these four men, and a very few others, have been so educated up to the work that they can do better than beginners, and therefore send them the great majority of the cases, and this still further educates and improves them.

More explicit faith seems to be placed in the dictum of the surgeon abroad than in our country, and operations are done early while the patient is still strong, and before the tumors have been tapped, or greatly interfere with surrounding organs, or acquire adhesions. In some instances perhaps the constitutions of the women are stronger, and in them the shock of the operation may be less, and convalescence more sure and rapid. But I doubt if these points have very much influence. That these four men do little else but abdominal and pelvic surgery, and thereby escape contact with so many contaminating influences and infections; that they are prepared and equipped with all the improvements that surgical science has produced, and that their *armamentarium chirurgicum* is kept surgically clean, and in constant working order—that they have a trained corps of assistants and nurses who are scarcely less able than themselves, have very much to do with their success.

The remarks I have made in reference to abdominal sections being done by general surgeons I apply to myself just as forcibly as to them. Though I do no surgery except that which comes within the limited field of gynæcology, still I see a great many obstetrical cases of my own, and in consultation with other physicians, and a few cases in general practice; and I have done most of my abdominal sections in private rooms in a large general hospital; still I think that if

I could devote my entire time, or if some of our operators could, to abdominal surgery, our results would be as good as theirs. One of my fatal cases developed erysipelas, and one died of vomiting, perhaps from sepsis. Of my fifteen abdominal sections, thirteen were done in general hospitals, and of the thirteen, two died.

In illustration of this suggestion, that one's skill and success should increase with his experience, I will state that out of the first five cases I operated on, three died, and out of the last ten, none died. I am sure that my experience, gained in assisting and witnessing about seventy ovariotomies, enabled me to save several of my cases, which I might otherwise have lost.

In June last, I went to Europe for the purpose of studying abdominal surgery, and to discover, if possible, why it was that better results were obtained by European laparotomists than were reported in this country. I met a number of distinguished American gynæcologists and physicians, and in discussing this subject with them I found that opinion differed widely as to the cause. Some attributed it to climate; some to the stronger constitutions of the women; some to the fact that operations were done earlier, as a rule, than in our country; and one or two said boldly that they believed the best results were obtained by the best operators. It is quite possible that all of these causes combined to produce the wonderfully low mortality reported.

The first abdominal section I saw performed in England was by Dr. George Granville Bantock, in the Samaritan Hospital, on the 30th of June, 1886, for the removal of the uterine appendages for the relief of a rapidly growing and bleeding uterine myoma. After their removal, the Doctor determined to remove the myoma also. He applied Kœberle's *serre-nœud* around its base, passed two long pins just above the constricting wire, and then cut off the tumor, which was about the size of my fist. The wound was closed with silk sutures—about three to the inch. Great care was used to draw up the peritoneum about the pedicle, and to thus completely close the abdominal cavity. Simple dry dressings were applied; long adhesive straps to sustain the

abdominal walls; no antiseptics of any kind, but the greatest attention was given to cleanliness. I saw Dr. Bantock operate on an ovarian tumor with a twisted pedicle, do four ovariotomies, and one where the abdomen had been previously opened, for the removal of an ovarian tumor on the other side. In this case the attachments were numerous, and the colloid contents of the tumor got into the peritoneal cavity. After tying all bleeding points with the greatest care, he deliberately poured several gallons of hot water into the abdomen from a pitcher, and thoroughly washed it out, and put in a drainage tube, the top of which penetrated a large piece of fine rubber cloth. A cup-shaped sponge was put over the mouth of the tube to absorb the discharge, and the rubber was folded many times over the sponge. The main dressing being under the rubber cloth, it was not disturbed or soiled by any fluid escaping from the tube. In ordinary cases the rule was to pump out the tube and pelvic cavity every three hours, and in bad cases every two hours, and to keep this up until the quantity drawn out was less than half an ounce. I saw Thornton and Meredith use this same device in the same hospital.

Dr. Bantock is a gentleman apparently about 50 years of age, with full, long beard, inclined to be grey, about six feet tall, and would weigh 180 pounds. He operates with the greatest coolness and deliberation; and neither he nor the other surgeons of the Samaritan seemed to make any effort to work against time. Thus the operation above referred to occupied fifty-seven minutes by the watch, and I saw Meredith do one immediately afterwards which occupied him one hour and fifty-five minutes.

Meredith is about 40 years of age, tall, thin, and wears a close-cut, full beard. His case was a small tumor growing in between the folds of the broad ligament, but giving the patient a great deal of pain. It had no anterior attachments, and appeared like a simple cyst until after it was tapped. Posteriorly it was adherent to everything, and its enucleation required more than an hour. When it was finally freed from all attachments and removed, there must have been as many as twenty forceps dangling from as many bleeding

points. These were all carefully tied off, and the omentum, intestines and broad ligaments searched, sponged, and carefully handled to find any other bleeding surfaces. A straight glass drainage tube was put in and dressed, as above described. This patient made a good recovery, I was afterwards informed. The operation was done in a warm room, on the 30th of June, in a dense cloud of carbolic spray, which was very oppressive to operator, assistants and invited guests.

On July 3d, I saw Mr. J. Knowsley Thornton operate for removal of an ovarian tumor with a twisted pedicle. Patient had symptoms of peritonitis. Mr. Thornton made a long incision, exposed a dark and almost gangrenous tumor. Considerable blood had been effused, and a number of large dark clots were turned out. Recent adhesions were very numerous, and though easily broken down, bled freely. The pedicle was quickly reached, and found twisted several times upon itself, and the tumor completely strangulated. Strong pressure-forceps were at once applied to the pedicle, and the tumor cut away. The pelvic cavity was packed with large soft sponges wrung out of carbolized hot water, and the omentum and intestines, which had been adherent to the tumor, were drawn out and placed upon and between hot, wet towels, and nearly an hour was occupied in sponging, searching, finding and ligating bleeding points. When all oozing had been thus controlled, the parts were carefully replaced, the sponges removed, and another search made for bleeding points. When satisfied, the abdominal wall was closed by a great many silk sutures, and a drainage tube put in, and dressed with great neatness and care. I saw this patient a week later with Mr. Thornton, and she had every prospect of a good recovery. I saw Mr. Thornton do six ovariotomies in all. He is a man of about 40 years of age, has a high, full forehead, and wears a large moustache. He is never disconcerted by what happens in an operation, except at the stupidity of his assistant or nurses, when he swears. He has now done about 700 abdominal sections, with a mortality of less than 10 per cent.

The surgeons of this hospital differ as to the use of anti-

septics—Thornton and Meredith operating in dense clouds of carbolic spray, while Bantock uses nothing but hot water and perfect cleanliness. Thornton and Bantock get about the same results.

So much has been published in the journals of late, in regard to Mr. Tait, and his methods of operating, that I will not extend this paper by describing them. Having made the acquaintance of Mr. Tait and his wife when they were in Washington, in 1885, I did not feel that I was altogether a stranger in Birmingham when I arrived, in response to a kind invitation from the great abdominal surgeon, on the 6th of July. To speak of Mr. Tait as cordial and hospitable, hardly expresses it. He said one day, when I declined an invitation to dinner, that *he* was not allowed to dine alone at a hotel while he was in *my* country, and he would not permit *me* to do so in *his* country. I remained in Birmingham, witnessing his marvelous skill in abdominal surgery for about three weeks, and saw him perform during that time at least twenty-five operations. I have repeatedly seen him remove the uterine appendages in less than ten minutes, and do a number of ovariotomies in thirteen and fifteen minutes. I had the pleasure, also, to see him operate in a case of extra-uterine pregnancy, and do his operations for the removal of gall-stones, vesico-vaginal fistula, and for restoration of the perineum several times. His manipulative dexterity is simply wonderful. He rarely occupies ten minutes in restoring the perineum, even when it is torn through the sphincter and up the septum. The vesico-vaginal fistula operation, above referred to, was finished in just thirteen minutes, and it was literally done without speculum or needle-holder. The powers of diagnosis and manipulative skill and dexterity which reside in his "finger-tips" are nowhere so startlingly shown as in his operation for the removal of the uterine appendages. His mode of opening the abdomen differs from that of any other operator I have seen. When the peritoneum is opened, he thrusts into the small opening his two fingers, tearing it larger, and diagnoses and liberates adhesions, and turns out the ovaries and tubes in less time than it takes to properly

describe the process, and yet there is no appearance of roughness or rash haste. I heard one physician speak of him affectionately as "old finger-tips."

Mr. Tait is comparatively a young man, being just past 41, and he probably stands to-day as the boldest and most original and most successful abdominal surgeon in the world. An entire paper devoted to Mr. Tait and his work could not do the subject justice, and I will not attempt so delicate a task as a description of him or his methods. His manner was said to be brusque by some, and so peculiar as to be offensive to others; but I shall never cease to be grateful for his many acts of personal kindness and lavish hospitality to me while in his city. He said to me, at one of his dinners, that he had so many Americans to visit him that his friends called his house the Stars and Stripes Hotel. Mr. Tait generally selects an early hour in the morning for his serious operations. I had a number of times to be called at six, breakfast at seven, and ride three miles to the Woman's Hospital, at Spark Hill, to see him operate at 8 o'clock. He does not seem much fatigued by his operations. I frequently saw him do two laparotomies, one immediately after the other; and the last day of my stay I saw him do five operations before breakfast, and at 2 P. M. another on a patient who had been admitted that morning into his private hospital, which adjoins his residence. He begins work at 8 A. M., and breakfasts at 11. In answer to a question by Dr. Howard, of Baltimore, as to how many ovariotomies he had ever performed in one day, he replied that, in order to test his strength, he had one day performed six, but he did not care to repeat it. Mr. Tait has opened the abdomen over 1,600 times.

I had the pleasure of seeing Dr. Thomas Savage, of Birmingham, operate several times for the removal of the uterine appendages, and also for the removal of a kidney. His methods are about the same as those of his colleague, Mr. Tait. He told me, at a dinner at his house, that he had done this operation over 400 times. He, like Tait, uses no antiseptics, and seems to have no fear of opening the peritoneum. His death rate is very small—less than 5 per cent. I think.

After corresponding with Dr. Thomas Keith, with reference to a hysterectomy for a large fibroid, it was finally arranged that Drs. Emmet, of New York, Howard, of Baltimore, Maury, of Tennessee, and myself, should meet in Edinboro, on the 12th of July, to witness the removal of a uterine fibroid, estimated to weigh at least forty pounds. The patient had been under observation for several years, and the tumor had been growing for fifteen years. The patient was etherized with the Clover inhaler, in less than five minutes, and we assembled about the operating table to see the great fibroid removed by the great hysterectomist.

The abdomen was exposed, and Dr. Keith made an incision more than a foot long directly through the umbilicus, and exposed the tumor in several places with the first stroke of his knife. We were all as much surprised as Keith to find that our fibroid was a cyst of the broad ligament. It turned out to be adherent in many places, and required nearly an hour for its complete enucleation and removal.

Dr. Emmet remarked that it was worth a trip from London to Edinboro to see Dr. Keith make such a mistake in diagnosis. Dr. Keith replied that it was his seventh error in diagnosis in over 600 abdominal sections.

Keith is one of the most sincere and honest operators in the world. I heard many doubts expressed in regard to the reports of various operators abroad, but nearly every one I heard mention Keith's name declared that the most perfect reliance could be placed upon any and every statement he made. He is fifty-seven years of age, in very feeble health from kidney disease, and does not expect to live over a year longer.

He is slow but sure in his operations. After reaching the pedicle of a tumor he applies strong lock forceps to it, and cuts it away, and then spends much time, or as much as is necessary, in hunting for bleeding points, and in securely ligating them with fine silk. In separating the adhesions in this case, he had forty-seven forceps applied to detached and bleeding parts, which he had separated with his fingers from the tumor. He subsequently tied each one with fine silk, which he had rolled on a glass spool and drew out of a

bottle filled with a weak solution of carbolic acid, and cut off the ligatures as he needed them. His fingers are long and slender, and as he makes them fly about in the abdominal cavity, severing adhesions, he reminded one of a pianist fingering the keys of a piano.

"Thomas Keith is 52 years old, six feet high, slender, and slightly stoop-shouldered. He wears a full brown beard, and his fine, large head is covered with a profusion of long, silken, golden, auburn hair, which hangs down behind, gently curling over his coat-collar. His forehead is broad and prominent; his nose is long and straight, slightly aquiline, beautifully symmetrical, and strongly indicative of character. He has large, deep-blue eyes, full of benevolence and gentleness; and he has what is one of the most attractive gifts of nature, whether to man or woman—a sweet, musical voice. He is as modest as a woman, and in character altogether lovely. He is quick in action, walks rapidly, as if he were trying to catch up with his great head, which is always in advance of his slender body. As he descends from his carriage, he hurries across the sidewalk and runs up the steps, and has the door open before any of his followers are near him. He has such power of concentration that his mind is always intense on the object of its pursuit, and he hastens to accomplish it. His whole soul is wrapped up in his work, and after he has performed a difficult operation, he eats and sleeps but little till he knows that his patient is out of all danger. I only wonder how a man of such high-strung, delicate, nervous organization could so long have borne up under the great and anxious work that he has done."—(*Thomas Keith and Ovariotomy, by Marion Sims.*)

His son, Dr. Skene Keith, assists him at his operations, and has done so for several years. Young Keith also had an experience as assistant in the Samaritan Hospital under Bantock and Thornton. I saw him do an operation on July 13th, which was of the same kind his father operated on the day before. The operation was completed in one hour and fifteen minutes. Skene Keith bids fair to be one of the best operators of the age. He told me that he had already done eighty-one ovariotomies with but two deaths and twenty-four Tait operations without a death. It is true he had his father to advise and assist him, but it is nevertheless true that he did the operations. He is but 27 years old.

The elder Keith has now done about seventy hysterectomies for large fibroid tumors, with but seven deaths—the best results which have ever been attained by any operator so far as I know. His first thirty-eight cases were done with only two deaths. I was very anxious to see him do this operation, but the case I went to see unfortunately turned out to be one of mistaken diagnosis. I may add that the two cases I saw by the two Keiths recovered.

Dr. Keith, in conversation, stated that he attributed two of his deaths to infection brought to his operations by visitors. In one instance a surgeon came in fresh from a case of erysipelas. Keith's patient soon afterwards developed erysipelas and died. In another case a physician was present who had the same morning attended cases of scarlet fever. Keith attributed his patient's death to the scarlet fever poison. He now enforces more stringent rules in regard to visitors.

In Birmingham, before we could be admitted to see laparotomies, in the Hospital for Women, we had to sign the following statement—to-wit: "We, the undersigned, certify that we have not been to any dissecting-room, nor post mortem examination, nor case of infectious disease, within the last seven days."

The following description of the work and precautions of Schrœder and Martin, of Berlin, is taken from Dr. Mundé's paper in the September number of the *American Journal of Obstetrics:*

"Schrœder operates in the beautiful new 'Francu-Klinik,' with which his private dwelling is connected, as is frequently the case with the professors of obstetrics and gynæcology in the German universities. His operating hour is 7 in the morning, and punctually as the clock strikes, the door from Schrœder's private apartment into the hall, on the ground-floor of the clinic, opens; and the operator appears, clad in a loose suit of white linen, the coat of which he removes during the operation, which is begun without a moment's delay, the patient having already been narcotized by the first assistant, Dr. Reichett. The spectators are immediately invited to enter the operating-room, and the door is closed. The number of spectators, during my stay in Berlin, never exceeded, if it reached, a dozen. Utmost punctuality in attendance, and silence during the operation, are expected.

The following rules are printed on the back of the cards of invitation to abdominal sections:

"Rules for the physicians who wish to attend laparotomies in the Royal Gynæcological Clinic:

"Those physicians who wish to be invited to laparotomies must agree—

"1. On the day before the operation, not to have come in contact with infectious matter of any kind.

"2. To attend the operations in clean linen, and in clothing which has not been worn in rooms occupied by sick persons.

"3. Not to touch instruments, sponges, or any article whatever employed for the operation.

"4. To be present punctually at the appointed time, as with the beginning of the operation the door is locked.

SCHRŒDER."

The operating-room is used only for abdominal sections; all other operations, including vaginal hysterectomies, are performed in one of the clinical lecture-rooms. Every superfluous article is absent in the laparotomy room, the walls of which are painted, and the floor cemented; operating-table and instrument-stands of galvanized iron. Only two male assistants—Dr. Reichett (chloroform), and the other, Dr. M. Hofmeier, opposite the operator—two nurses, one to hand instruments, the other standing behind Schrœder with basin containing sponges, mostly large, in a basin of two-per-cent carbolized water. No spray. The patient is placed at her whole length on the table, the feet being on a level with the head. Contrary to all other operators whom I have seen, Schrœder stands on the left side of the patient, with his back to her head, and begins the incision at the symphysis pubis, very low down, using a long knife, and with one cut going down, or even through the linea alba to the supra-peritoneal fat, from pubis to umbilicus. With delicate touches the tissues are divided to the peritoneum, which is gently lifted between forceps, nicked, and then divided to the full extent of the wound, the edges of which are lifted up by two fingers passed under the borders of the recti, so that the light shines through the peritoneum before it is divided. In this way injury to the bladder is avoided, although Schrœder admitted to me that, with adherent bladder, it might be possible,

and indeed it had happened to him once or twice to wound that organ while hastily opening the peritoneal cavity.

I repeatedly saw the whole fundus of the bladder exposed from the beginning of the operation. The object of this low incision is to permit more easy access to the pelvic cavity.

Martin's clinic is a large, substantial building of brick, stone, and iron, unpretentious in architecture, but solid and practical in design.

All his laparotomies are performed in a separate operating room, with walls, floors and ceiling of cement and painted plaster, which are thoroughly scrubbed and washed with corrosive sublimate solution before each series of operations. The hour for operating is chosen by Martin to suit his convenience; thus the laparotomies I saw him do were performed between 11 and 1 o'clock. All spectators leave their coats, vests, collars, cuffs, neckties and suspenders in the ante-room, and scrub their hands with antiseptic soap. Silence in the operating room is requested. His two head assistants, and the matron, Frau Horn (who has charge of the whole management of the clinic), and a subordinate nurse for fetching water, as well as a third assistant for the chloroform, form the staff. The patient is laid on the operating-table (which is of galvanized iron, with a removable centre piece, so as to permit the easy application of the binder), with her hips at the edge, and her feet resting on the operator's knees, who sits on a low stool between her thighs, and operates in this position. The instruments are placed in a pan with corrosive sublimate solution, 1 : 1,000, at his side; the sponges are managed by Frau Horn, and are prepared in the usual manner, and kept in the same antiseptic solution. No spray. Abdominal dressing, aseptic gauze and roller bound around abdomen and thighs. Contrary to the usual custom of keeping the intestines in the abdominal cavity, Martin at the very beginning, if they are in the way, lays them all out on the thorax, and keeps them there wrapped in a wet aseptic warm towel, until the time comes to close the incision. If the towel is kept warm, no harm seems to be done by this exposure, and certainly much room is gained and the operation is facilitated.

I fear I have already taxed your patience beyond endurance; and thanking you, Mr. President and Mr. Secretary, for your very kind and flattering invitation to attend this meeting, and to read a paper, I will close these rambling and disjointed remarks, and call your attention to the notes of 15 cases which have been operated on by myself.

Case I.—Miss N., from Pennsylvania, referred to me by Dr. J. R. Riley, of D. C., was a fearful sufferer from chronic ovaritis and menstrual epilepsy. She was 29 years of age. Her menses appeared earlier than in the average girl, but, for several months prior to their eruption, convulsions of a severe and prolonged character always occurred. When I saw her she had been a victim of these monthly recurring spasms for a period of fourteen years. She had never been trusted to attend school; had grown up without education, and presented the appearance of besotted ignorance. She had constant pain in both ovaries, but for several years her sufferings had been limited to the left side. She was not only unable to perform any kind of useful or remunerative labor, but for two weeks out of every month, or just half of her time, she was constantly under the care of an attendant. She had been treated by many physicians of all known, and many unknown schools, and had been the subject of much experimentation by old women, cranks and quacks. She had never received permanent benefit from any kind of treatment, and was constantly growing worse. The ovarian pain in the inter-menstrual periods was greatly aggravated by exercise or housework. When I saw her she was a pitiable and revolting spectacle. Her face, with its numerous scars and bruises, the effects of falls during her spasms, associated with a total lack of refinement or culture, gave her an almost beastly look.

After learning her history, I soon decided that, as everything likely to be of service had already been done over and over again, if a premature change of life could be induced, upon Battey's theory, by Battey's operation, I would attempt it. Consent having finally been granted, and the relatives subsequently being clamorous for the operation, as offering the only hope for recovery, I performed it on the 17th of August, 1882, removing both ovaries and one Fallopian tube.

The patient's excellent recovery was only retarded by one or two stitch-hole abscesses, and a slight attack of bronchitis. For several months she had no periods and no spasms, and was greatly improved in her general health and appearance.

Gradually her menses returned, and with them convulsions of a mild form, so that now, five years since her operation, she is menstruating with greater regularity than ever, but with less frequent and much less severe attacks than formerly. Her sister informed me, a year after the operation, that it was the family belief that she had been so long accustomed to having these "spells," that they had become a habit with her, and that she only had them when excited or angry; and it was the general opinion that they were purely hysterical, and that she could control them if she desired.

Her physician wrote me on the 23d of July last: "My opinion is that the operation was a great relief, and has certainly prolonged her life." The patient and her friends frequently declared to me their pleasure and satisfaction with the results of the operation.

Case II.—Miss W., aged 21, formerly in good circumstances. Her parents both became addicted to strong drink, squandered their property, broke up their home, and finally separated. Miss W. was taken in charge by poor relatives, and was compelled to earn what she could by sewing. Overwork, insufficient nourishment, and mental anxiety soon destroyed her health and spirits. She took a severe cold at the time of a monthly period about seven years ago. The period was suppressed, and she was "confined to bed for several weeks with pain and fever." Since this time she has been a great sufferer from chronic ovaritis and dysmenorrhœa; had been constantly treated, without benefit, and was steadily growing worse. Her only relief was in bed, with hot applications and anodynes, during the week of her menses. She had leucorrhœa and a displaced uterus, which were constantly treated with varying success, but without helping the ovarian pain.

I saw her at the request of Dr. H. E. Leach, and treated her three months, but she grew worse all the time, and finally entered my service at the Providence Hospital, where, after another month spent in preparatory treatment, with oöphorectomy in view, I removed the ovaries and tubes. She made a perfect recovery; was sitting up in two weeks, and in less than a month left the hospital a new creature—no pains, no menses—happy in mind and well in body.

In a letter received from her about two years after leaving the hospital, she used the following words: "No pen can write the sufferings I endured in the five years previous to my operation. At times I became almost desperate enough to take my life, and end my sufferings. * * * * My

life now seems a new one, and I am getting along splendidly. * * * I am now a well, happy and cheerful girl, and do not feel like the same person at all." She closes by recommending öophorectomy "to anybody suffering as she did," and reasserts that "it has been a sure cure to her."

Case III.—Miss S., aged 24, a young lady of agreeable looks and refined manners, evidently from a family of education and former wealth, was sent to me by Dr. Mary Parsons. She had been, for some years, a great sufferer from dysmenorrhœa and reflex disturbances in the stomach and nervous system. Ovarian pain, vomiting, backache and headache, and insomnia, were more or less constant.

I quote from the Garfield Hospital report, where she was for several weeks my private patient: "She was brought up in the midst of excitement, and her nervous system was constantly strained to its utmost. She was healthy until the age of fourteen, when her menses began. At once a change came over her. She began to lose health and strength. Each period was preceded by about ten days of violent pain in the abdomen and head, accompanied with nausea and vomiting."

For the last seven years she has been under the care of numerous doctors, at home and in hospitals, without relief. At present, and for many months, she states that, while the menstrual molimen had been regular, there is no flow. The period is accompanied by all her former distressing symptoms, but the discharge has been growing less and less, until now it amounts to a few stains upon a napkin.

She became my patient subsequently in Providence Hospital, through the kindness of Dr. J. R. Bromwell. After four months of fruitless effort, I declined to spend further time upon her unless she submitted to öophorectomy. She had several times exhibited decided evidence of insanity, and her relatives desired the operation, as much to preserve the soundness of her mind as her body. Accordingly, on the 15th of February, 1884, I removed both ovaries and tubes.

Her convalescence was somewhat retarded by the formation of abscesses, but she made an excellent recovery, and continues to this day to be a marvel to herself and friends. The ovarian pains and reflex symptoms have disappeared, and she returned to her clerkship in one of the Government Departments, where she performs her duties to the entire satisfaction of her superiors. She writes me as follows, in a letter just received:

"I suffered for years almost constantly with severe throbbing pain in my side and back, greatly aggravated by exercise, and at times accompanied with intense nausea, entire loss of appetite, sleeplessness, and a nervousness which cannot be described, which would often continue for ten days, only to be alleviated by large doses of morphine. I was in Hospital No. 4, with Doctor No. 28, confined to my bed for four months, and more or less for two years, growing rapidly worse, and my suffering so great that I felt I could endure them no longer. When I resigned myself to the operation, I believed and hoped that it would end my life. I am now relieved of the old pains, and am better in every way than I have been for ten years, * * * and I cannot express what I feel for my noble, untiring, and skillful physician. I feel that I owe more than my life to him, for I fear I would have been insane with the suffering there was no respite from until I fell into his kind hands."

Case IV.—Mrs. X., aged forty, mother of three children, had suffered a constant burning pain in the left ovary for twenty years, and for the past few years in the right ovary also. She had, in addition, a lacerated cervix and perineum, both of which had been restored by operations. She had been under treatment for many years, and had spent, she said, over $10,000 to obtain relief from this constant gnawing, burning pain, without success. She was practically bed-ridden three weeks out of every month, and had little if any enjoyment in life. Her pains all culminated about the time of her period. Constant nausea and neuralgia—both reflex—made her life a burden which she refused longer to bear.

A lady friend, in about her condition, had been operated on and cured, and she calmly and deliberately made up her mind to have her offending organs removed. I demurred, and begged her to stand it five years longer, until nature would come to her rescue in the change of life. She replied that she had stood it just as long as she could, and that, unless she obtained relief, she would be in the grave or an insane asylum in less than a year. Finally, after she had told me that she had arranged to be operated on in New York in a week, unless I operated within that time, upon the advice, and with the consent of her husband, I removed the ovaries and tubes, in a private room in the Providence Hospital, on the 16th of February, 1884—the day after the operation on Case III. She rallied perfectly, and with the exception of vomiting, seemed to do well for three days; but the vomit-

ing could not be controlled, and she died exhausted on the morning of the sixth day.

The autopsy gave little evidence of the cause of death. Her constant retching and vomiting had set up some slight peritonitis about the sutures. One small sponge readily absorbed all the fluid in the abdominal cavity, which was inodorous. An abscess about the size of a chestnut was found in the abdominal wall, in the track of one of the stitches.

Case V.—Miss G., aged 21, came to me in June, 1885. Had always enjoyed good health. First noticed an enlargement in the left side of her abdomen two years ago, but it had not interfered much with her social pleasures or outdoor amusements until quite recently

I examined her on the 4th of June, 1885, and arranged at once for the operation, and removed the tumor on the 8th of the same month. Her father was a physician, and was anxious for an immediate operation after he knew the nature of his daughter's ailment, and as the season was rapidly growing warmer, it was done at once. The operation, as in the preceding case, was of the most simple kind; small incision, unilocular cyst; no adhesions. Operation completed in twenty minutes.

On the third day her menses came on. A diarrhœa set in for a few days, but was controlled. Union perfect by first intention. Sutures all removed by eighth day, and every hope was entertained of perfect recovery. On the ninth day she had a chill, with total suppression of urine; went into a state of collapse, from which she could not be rallied, and died on the tenth day after the operation. It was thought by some that she died of septic peritonitis, but there is some evidence to indicate that the kidneys were at fault.

The sad termination of this case was a very bitter disappointment to me. We had all passed through the agony of suspense, and were emerging from the clouds of darkness and tormenting anxiety into the sunshine of certain cure, when this chill and collapse came, and with it the death of a beautiful girl, who was the joy of a happy house.

Case VI.—A lady, the wife of a prominent government official, aged 30, married nine years, and without children, was a great mental and physical sufferer at the time of her periods. She was compelled to remain in her room, and most of the time in bed, from seven to ten days out of every month. Her ovaries were enlarged, very tender, and gave her the most excruciating pains when she overstepped the narrow boundaries which she had found, by many sad and

distressing experiences, hemmed her in on all sides. One ovary was badly adherent, and the other, about the size of a hen's egg, was quite movable.

This was one of the most anxious women to have children I ever met. She has, however, never been pregnant. She had been, more or less, under treatment for ten years, and everything seemed to have been done, and well done, to overcome her dysmenorrhœa, and cure her sterility, which gynæcologists could do or invent; but, with the exception of some relief to her monthly pains, gained as much by experience, in taking better care of herself, as by treatment, she was worse off—taking the case as a whole—than she was five years ago, with no prospect of ever being better, until the change of life would inaugurate those changes and bring that mysterious quiet to the sexual apparatus of the female, which we are powerless to hasten by treatment, or to fully understand.

The sad termination of my last case caused me to hesitate before subjecting this charming lady to the dangers of Battey's or Tait's operation, and yet I was fully convinced that it was the only thing left to do. She repeatedly begged for any operation which held out the least prospect for her to have a child of her own. Her maternal instinct was so strong as to lead her to court any suffering which might bring this glad fruition to hopes so long deferred. When told that she was hopelessly sterile, and that Tait's operation would make it forever impossible for her to conceive, she wanted to die. Her most absorbing hope was taken out of life, and she had no further interest in living. She was desirous, to quote her own words, to be "killed or cured" of her pain. If she could live on and do her duty in her home and to society, free from pain, she would be willing; but, while anxious, for the sake of her friends, to get well and strong once more, I felt assured that her ardent hope was that she might perish in the attempt. Her husband and intimate friends feared that she would, in some attack of pain and mental despondency, end her own life by some rash act, or do some other dreadful deed.

I now think the operation should have been performed years ago. Our means of diagnosis in these sad cases need improving. Of course we hesitate, as in duty bound, to subject these patients to the risk of abdominal section until all other means have been exhausted and have failed to relieve.

Upon the advice of Dr. N. S. Lincoln, of Washington, I

operated on the 20th of January, 1885. The right ovary and tube came out without much trouble. The left was imbedded in such a mass of inflammatory products as to make its removal practically impossible. After working at it about fifteen minutes, I reluctantly gave it up, sponged out the abdominal cavity and closed the wound. The patient made a slow recovery, and has not been much benefitted by the operation, though she wrote me a letter this month from Buffalo, her present home, full of appreciation and gratitude for my efforts, and saying that she was doing much more than formerly, and had gained considerable flesh and strength. I doubt if she will ever be well until that other ovary is removed, or her change of life puts an end to its functional activity. She is about 30 years of age.

Case VII.—Mrs. W., aged 35, white, married, the mother of one child eight years old, was brought to my office in June, 1884, by Dr. Walter, who gave me the following history of the case: In November, 1884, she noticed an enlargement in her right side, and discussed with her mother the probabilities of pregnancy. She had too frequent and profuse menses, however, and the belief gradually grew upon her that the growth in her abdomen was a tumor. Her health continued very good. She suffered no inconvenience from its growth, except from its weight and size. There was a noticeable interference with the functions of the bladder and rectum, but no more than had occurred during her pregnancy eight years ago. In April or May she consulted Dr. Walter, who, under the suggestion that she might be pregnant, declined to use the sound; and as her health was not suffering, he advised that only symptoms should be treated, and that time would prove whether she was with child or not.

Dr. Walter brought her to my office on the 27th of June, when I diagnosticated an ovarian tumor, with fluid so thick that fluctuation was difficult or impossible to detect, and suggested operation at once, or as soon as the hot weather should be passed. This was readily agreed to, and the first week in October appointed for the removal of the tumor. I made several examinations in the meantime, and believed the tumor to be cystic from its general feel, but could never get any fluctuation. I suggested that the fluid might be colloid in its etymological sense. I had no thought of malignancy—the patient being robust, of good color, good appetite, and feeling perfectly well. She had not lost flesh, and had no cachexia.

During the meeting of the American Gynæcological Society, I requested one of its distinguished members, who has performed and witnessed hundreds of abdominal sections, to examine Mrs. W. with me. He kindly did so, and expressed a very positive opinion that the tumor was a solid fibroid; and, as it was rapidly growing, that the proper operation was the removal of the uterine appendages, with the hope that the tumor would stop growing and would soon disappear.

This change of plan was explained to the patient and her husband, and October 7th fixed for the operation. The lady was admitted to a private room in Providence Hospital on the 5th, and the abdomen was opened on the morning of the 7th, in the presence of Drs. Bromwell, Walter, Cutts, and the resident physician, Dr. Hickling. Instead of a solid fibroid, I found a tense cyst, which was free from adhesions as far as could be ascertained with the finger, or a large male sound, passed freely in all directions over the anterior surface of the tumor. The tumor was tapped, and about eight pounds of clear amber-colored fluid withdrawn. Traction was made on the cyst, but it would not come. Upon passing in my hand after enlarging the opening from the umbilicus to the pubes, it became apparent that the tumor was attached posteriorily over its entire surface. The separation of these very numerous and powerful adhesions occupied more than one hour. They were so strong that it required nearly my entire strength to break them and lift the tumor out of its bed, and to turn it out of the abdomen. The difficulty seemed so great, that at one time I thought of enlarging the opening in the sac, putting in a drainage tube and stitching its edges to the abdominal incision; with further efforts, however, I was able to turn out the entire tumor. It was then found that the attachments to the uterus were so intimate that they could not be separated without producing great hæmorrhages, and the removal of the uterus was finally determined upon. A clamp was applied at the internal os, and the uterus and tumor cut away with the thermo-cautery. The stump was secured in the lower angle of the wound, and the incision in the abdominal wall closed with eight silk sutures; after clearing out the abdominal and pelvic cavities, a drainage tube was put in above the pedicle. The usual dressing was applied, and the patient put to bed, having been on the table two hours and twenty minutes. I feared the lady would not live twenty-four hours, and so informed her husband. She, however, had a good

night, and continued to do well. Her highest pulse was 108, and temperature 101°, and that only for one day. Her pulse did not rise above 80 afterwards, nor her temperature more than one degree above normal. The drainage tube permitted the removal of an ounce of bloody serum the first day or two. The quantity grew less and less, until on the seventh day none could be drawn up, and it was removed. The pedicle and clamp came away on the fourteenth day. She continued well for six months, when the cancer returned in the portion of the cervix left, after the supra-vaginal hysterectomy, and she died from its effects eight months and twenty-one days from the removal of her tumor.

From the appearance of the cyst and its contents, I feared that there was a colloid degeneration of the tumor, and therefore took it to the Army Medical Museum for examination. The following is the report of the microscopist of the Army Medical Museum:

"War Department, Surgeon General's Office,
Army Medical Museum,
Washington, D. C., October 27th, 1885.

J. Taber Johnson, M. D.:

Dear Sir,—The abdominal tumor sent here for examination proves to be a cystic adeno-carcinoma of the ovary. The diameter of the cysts ranges from 1-200 to 1-20 inch, and they are lined with columnar epithelium, which is ciliated in most of the cysts; they are filled with degenerated mucoid tissue, which has scattered in it large epithelial cells. Besides the cystic formation, there is a decided cancerous infiltration which occurs in patches, and has the appearance of a cylindrical epithelioma. The uterus is also infiltrated with the carcinoma, but has not undergone cystic degeneration. Respectfully,

W. M. Gray."

While a reference to the statistics of supra-vaginal hysterectomy is not in place in a report accompanying a pathological specimen, still a few words on this subject may be pardoned.

The impression prevails, I think, that this is a very fatal operation when performed, as it usually is, for the removal of uterine fibroids; and yet Keith has recently reported 38 cases of the removal of uteri above the internal os, along with fibroid tumors, the average weight of which was fourteen pounds, with only 2 deaths, or a mortality of about eight per cent. In the last edition of his book, Sir Spencer Wells gives the results after hysterectomy in 39 operations with 29 deaths. In Bigelow's tables, which were supposed to place conveniently on record all published cases up to the date of

his paper, there were 359 operations, with 227 recoveries and 132 deaths. These operations were done in all parts of the world, and in many cases in series of twos and threes by inexperienced operators, and hence this great mortality.

It would seem that the greatest success is attained by those who have had a large experience in ovariotomy. Knowsley Thornton gives similar testimony. In 1882, he reported 25 cases of removal of uterine tumor, with 9 deaths. In 1883, he read a paper in Liverpool on this subject, in which he reported 16 *additional* operations, with only one death. Mr. Thornton has recently sent me another paper, in which he reports 38 new cases of supra-vaginal hysterectomy, with only two deaths. Keith says that Bantock is by far the most successful of all the London operators, and his numbers are the largest.

Lawson Tait, Schrœder and Hegar have also had good results in this operation, when compared with their earlier experience. For the relief of the ordinary uterine myoma, Tait's operation offers the greatest safety, and best results. Tait recently reported 58 cases of the removal of the appendages for the cure of myoma, with success in every case; and adding his previous year's experience of 50 cases, makes a series of 108 operations, with but two deaths. There are certain cases, however, which demand surgical relief, which can only be obtained by supra-vaginal hysterectomy; and it is a satisfaction to see the statistics of this very formidable operation improving.

Case VIII.—Mrs. ——, aged 65, married, the mother of several children, came to me from Chicago. Her children lived in this city, and she preferred to be operated on near them. She had noticed the presence of her tumor for more than two years, and its growth of late had become more rapid. She had lost considerable flesh and strength, and was advised by Dr. Curtis, of Chicago, to have her tumor removed. She made up her mind quite suddenly. Settled all her worldly affairs, came to me and requested the operation to be done on the same day, or the next after her visit. I saw her Thursday of one week, and operated on Tuesday of the next, in a private room of the Garfield Hospital. The operation was simple and successful. The sac came out through an incision of three inches or less. Its

only adhesion was to the broad ligament. She rallied well, and with the exception of unusual nausea, did well for three days, when she had an attack of parotiditis, and a diffused erysipelatous redness and swelling over one side of her face, nose, and forehead. Her vomiting continued. She retained scarcely any nourishment, either by the mouth or by the rectum, and gradually sank away, and died on the sixth day. During the last twenty-four hours, she became more and more difficult to rouse, and died of exhaustion. Dr. J. Ford Thompson made an autopsy, but found no cause for the fatal result.

Case IX.—This is a case of simple unilocular ovarian cyst, which was removed October 12th, 1885, from a lady in a private room, in Providence Hospital. There is little of interest connected with it, except that there were firm and dangerous adhesions to the vermiform appendix, and to the intestine just below it. She and her husband both inform me that she was not long ago under the care of a gynæcologist, who assured them positively, both verbally and by letter, that there was nothing the matter, except an unusuul deposit of fat. The cyst and contents weighed just twelve pounds.

The lady, Mrs. P., 23 years of age, is the mother of two children, the youngest being four years old; had a miscarriage three years ago, since which time she has been slowly increasing in size. She came to me from Falls Church, Va. Drs. Lincoln and Busey agreed with my diagnosis, and, with me, recommended immediate operation. I sent this lady to Providence Hospital on Monday, and operated on the following Thursday morning. The patient rallied well, and did not have a bad symptom of any kind. Her highest temperature was 100°, and her highest pulse 82. She had no pain, and took no medicine, except one suppository of ten grains of quinia and one-fourth grain of morphia, just after being placed in bed, and that was unnecessary. She left the Hospital in a month perfectly well, and has remained well ever since.

Case X.—Miss C , aged 19, white, the daughter of a farmer in Montgomery county, Md., came to me upon the recommendation of her physician in the county, Dr. Carraher, and of Dr. Kleinschmidt, her consulting physician in Washington, D. C. I saw her first in October, 1885, when Dr. Frank Baker brought her to my office for examination, with special reference to ovarian disease. I discovered none at that time, and recommended no operation. Dr. Baker

understood, from statements from the patient and her family, that she had had spasms from infancy. They, however, occurred during the week preceding and at the time of her periods, and a few days subsequent to the flow—two weeks out of each month. Yet I did not detect the ovarian influence in her case, and recommended a continuance of the bromides. I am informed by Dr. Baker and Dr. Kleinschmidt that they both succeeded in keeping her free from convulsions—one for nine weeks and the other for eleven—by the use of very large doses of this drug, giving her, the girl told me, as high as 300 grains a day for some time. Her condition was such, while under its influence, as to make her convulsions preferable. Most of the time, when "sufficiently drugged," as they termed it, to keep off the spasms, she was so stupid and helpless as to be compelled to take her bed; and her cerebral functions were so clouded as to make her, for the time, little less than idiotic. After going on in this way for six months longer, the young lady finally rebelled, and refused to take more medicine, and demanded, if there was a surgical operation which offered any hope of relief, that it should be performed, and this chance given her to get well. She preferred death to her present uncertainties and sufferings. She was sent to a private room in Providence Hospital, and I had her under careful observation for about a week, when I determined to comply with the earnest solicitations of her mother and herself, and remove her ovaries and tubes.

There had evidently been a wrong impression about the time when the spasms began. The following is the history of the case given to me by Mrs. C., with the full knowledge that it was to influence my mind as to the propriety of this operation, and that if the facts were mistated, a fatal error might be the result. Mrs. C. stated that all were mistaken who believed that her daughter's spasms had originated in childhood, and continued ever since. The facts are as follows: She had a spasm when she was ten days old, no one knew why. She had no more until she was three years old, when an attack of pneumonia was ushered in by a spasm. She had no more until she was between twelve and thirteen years old, when they began to occur at monthly intervals, accompanied by pain in the head, back, and uterine region. Her physician told them that her menses were about to appear, and that she would be better as soon as they were established. She had her first period when she was fourteen years and five months old. The spasms were aggravated, and the pains increased at her periods. This state of things

continued, up to the time of her operation, uninfluenced by medicine, except as stated above, although, to use her mother's expression, she had taken "gallons, and gallons, and gallons of it," and positively refuses to take any more. With this statement written out, and read to Katie, who confirmed it as far as her memory went, I concluded to operate.

I believed her case to be one of menstrual or ovaro-epilepsy. I was more ready to accede to the wishes of the patient and her mother, since I had read the address of Dr. Gordon, of Portland, to the American Medical Association, as Chairman of the Section on Obstetrics and Gynæcology. Dr. Gordon reported 25 cases of otherwise incurable, or uncured cases, of prolonged hysteria, treated by Tait's operation, and a cure was produced of the most dreadful and painful symptoms in all his cases, but one or two. Women who had been great burdens to their friends, and to themselves, for years, were, by this operation, restored to lives of usefulness and happiness. With this report before me, I felt, although this was a new departure in the treatment of hysteria, that I had sufficient precedent to operate in this case.

On the 27th of May I removed her uterine appendages, in the presence of Drs. Kleinschmidt, T. C. Smith, Carraher, Cuthbert, the house doctor, and a medical student. I found in the left ovary a cystic tumor about the size of a small hen's egg. There were cysts in both ovaries. The largest cyst was ruptured in its removal. The patient made a perfect recovery. Twelve days after her operation, she was up and dressed, and visiting in the rooms of other patients. She had no pain nor rise of pulse, or temperature above 100°, and took no medicine. Sutures were removed on the ninth day, and union found perfect.

I have received the following letter from the mother of the patient, which I append to the history.

"DR. JOHNSON:—My daughter has been treated by eight different doctors for six years, and never derived any benefit from the medicine they gave her. She has taken, not pints of medicine, but gallons, and I believe I would be safe in saying a barrel. She has taken it until it has nearly destroyed her mind, and greatly affected her throat. She grew worse every year. The operation that was performed I fairly understood, for death would have been a great relief to her, and I am perfectly happy at her present condition, and so is she."

This girl and her mother called on me last month, and made a very satisfactory report. A few spasms had occurred, but they had been much less frequent or severe. She was

taking no medicine, was entirely free of her old pain, and had gained, they estimated, about twenty-five pounds.

Case XI.—Mrs. T., aged 31, widow, no children, was sent to me by Dr. Lincoln, of Washington. Tumor had been growing about two years. Upon operation, 21st April, 1886, it turned out to be a parovian cyst. Small incision 2½ inches; no adhesions. Tumor weighed fifteen pounds. Recovery perfect, except several stitch-hole abscesses, which were a source of annoyance for two weeks. Mrs. T. called on me a week ago, and reports herself perfectly cured.

Case XII.—Operation 7th of May, 1886. Mrs. S. had been a sufferer from uterine hæmorrhages for more than a year. On several occasions the flow was so great as to endanger life. Her tumor was small and tense at first, and upon the left side, and appeared to her physician to be a uterine fibroid, the hæmorrhages lending color and emphasis to the opinion. She had been under the care of a number of doctors. When she came to me her abdomen was larger than if nine months pregnant. She had lost much flesh; was pale, weak, and anæmic. Owing to the unusual thickness of the walls of the tumor, the incision had to be longer than usual, it being about five inches. The solid part of the tumor weighed eight pounds, the fluid portion twelve pounds—total, twenty pounds. The patient was 42 years of age, the mother of several children, and the subject of frequent and severe uterine hæmorrhage. I removed the other ovary also, which, upon examination, proved to be undergoing cystic degeneration. Union by first intention. No unfavorable symptoms. Left the hospital in a month, and has been constantly gaining ever since in flesh, health, and strength, and is now well.

Case XIII.—I saw at the request of Dr. B. B. Adams, of Washington, on the 18th of October, 1886. She was unmarried, aged 31, and had been well up to two months ago, except attacks of typhoid fever and jaundice, four years ago. Her sisters first noticed her change of form, which progressed with unusual rapidity until she reached the size of a woman eight or nine months pregnant. Her condition attracted the attention of friends and neighbors; and though quite able to do so, reluctantly went in public. Her disease and her state of mind so preyed upon her that she lost flesh rapidly, and was fast becoming an invalid. Upon my advice, she took a private room in the Providence Hospital, and on the 23d of October, I made a two-inch incision, and removed what proved to be a par-ovarian cyst, weighing

twelve pounds. She has, up to this moment, had no unfavorable symptoms, and has every prospect of getting perfectly well.

Case XIV.—Mrs. C., white, aged 24, married for three years, has been subject to the most dreadful attacks of menstrual or ovaro-epilepsy for the past ten years. She was sent to me by Dr. J. W. Bayne, of Washington. Mrs. C. had been under the care of at least twelve different physicians, including Dr. Hammond, of New York. She had been repeatedly told by Dr. Hammond and others that the cause of her trouble was ovarian, and believed to be incurable, except by removal of these organs.

During these ten years the patient had worn out the endurance of as many doctors, who had passed her on to the next, and of several hospitals, which had discharged her after exhausting their staffs, nurses, and drugs to no purpose. She had tired out her relatives, friends, and neighbors in watching and holding her. While her periods were irregular, the menstrual molimen occurred with painful regularity, and before it, during, and afterwards, she had the most active and distressing clonic spasms. She would, on some occasions, remain unconscious for a half a day and more at a time, and, when in an attack, would require the strength of a number of women to hold her, including all those in the house and what neighbors would come in, until her husband could be sent for. She has been much worse since marriage than before. The patient was unable to do much if any useful work about her house. She complained of almost constant pain in the pelvic region, and was losing ground mentally as well as physically.

When I was asked by Dr. Bayne to see her, I was informed of her previous history and present condition. A vaginal examination caused much pain and brought on her convulsions. I did not feel her ovaries.

Though requested by the attending physician, the patient, and her family to remove the uterine appendages, her case did not seem to me at that time to be one which held out a very strong promise of cure by this operation, and not wishing to have a failure, I declined to do the operation.

Two months later their importunities were so great, and also their anxiety to take the risk of a cure as well as the risk to life, which were *fully explained to them all*, I made another examination under ether. I found the ovaries atrophied and adherent to the tubes and surrounding structures. Believing that cause enough existed for the production of

her symptoms, I agreed to operate. I had the patient take a private room in the Providence Hospital, and on the 27th October I removed her uterine appendages.

It is now two weeks since the operation, and her present condition is all that one could expect or wish. I anticipate that she will have modified spasms for a while at the time when her periods are due, but hope they will grow less and less severe until they finally disappear. Her change of life, produced by the operation, may not be any more sudden than when it occurs in the usual way. If at the end of two or three years she is free of her old troubles, I shall feel that the operation is a success and was properly done. If she is no better, I shall regret it, and may decide not to operate on this class of cases any more. The evidence in recent medical literature is not conclusive on this question. Battey, however, recently reports the opinions of many of our best gynæcologists, in addition to his own, in support of the removal of the uterine appendages for nervous and mental diseases.

Even Spencer Wells, in the recent symposium in the *American Journal of Medical Sciences*, does not decide against it. He says he thinks everything else should be done first, and well done, and continued for several years, and that all the risks and dangers of the operation should be *fully explained* to the patients and their friends. And so do I. But what shall we do with those patients which resist all treatment—marriage included—for ten years, and are growing worse?

Case XV.—Mrs. W., white, aged 48, the mother of five children, the youngest being twenty years old. I was requested to see her by Dr. B. B. Adams, of Washington. She passed her menopause five years ago, but within the past year has had some bloody discharges requiring treatment.

She was supposed to be pregnant, and on account of the peculiar nature of the discharge, it was thought that the fœtus was dead, and that there was a hydatidiform degeneration of the membranes, etc.

Under the impression that the uterus needed help, sponge tents had been used and efforts had been made to rupture the bag of waters.

When I saw her she had peritonitis. Her abdomen was greatly distended, and was everywhere so tender and tympanitic that an exact diagnosis was impossible. I had no difficulty in deciding, however, that the uterus was not en-

larged, and that she had a tumor of some kind. She had been in bed three weeks, and I thought she would die, and so informed the family. A week later they telephoned me that she had grown much worse, and would probably die during the night. She was in a state of collapse, with a pulse of 160, and a sub-normal temperature; cold, clammy skin. Arrangements were made to hold a *post-mortem*. She rallied toward morning, and in ten days was up and walking about. Dr. S. C. Busey saw her in consultation, and agreed with me as to the existence of a cystic tumor, the exact nature of which was uncertain. It was arranged to make an exploratory incision and be governed by the nature of the case.

This I made on the ~~22d~~ 11th of November, in a private room in the Providence Hospital, in the presence of Drs. Busey, Reyburn, Cutts, Adams, Cuthbert and others. Upon opening the abdomen I found a very dark colored tense cyst, which had undergone extensive inflammation. Much dark blood escaped. The tumor was everywhere adherent, but as the adhesions readily gave way, I determined to go on. After separating adhesions in all directions with my hand, I tapped the tumor with Tait's trocar. The fluid had the appearance of dark-red blood. The tumor substance gave way when the cyst forceps were attached to it, and it would tear when firmly grasped with the hand.

The pedicle was finally reached, transfixed, ligated, and the tumor cut away. The fluid portion of the tumor weighed ten pounds; the solid part five.

The abdomen was cleaned out with great care and closed with many silk sutures. A drainage tube was left in the lower angle of the wound. Every one supposed the tumor was cancerous, and that the woman would die. She has, however, made a good recovery and bids fair to get entirely well.

I am informed by Dr. Lamb, Pathologist of the Army Medical Museum, that the cyst wall had undergone extensive inflammation; that its contents were almost entirely blood, and that it was not malignant. It is too soon to secure a microscopic examination.

The patient has had no unfavorable symptoms except from stitch-hole abscesses. Her abdominal wall was at least two-and-a-half inches thick in fat. She had a very troublesome cough, resulting from the use of the ether, and it greatly irritated the tissues held by the sutures. It is only a week since the operation, and I cannot, of course, say she will get well. But she has at this moment every indication of doing so.

ADDENDA.

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This patient made a good recovery, and left the hospital on the twenty-first day after her operation "feeling better," she said, "than she had felt for three years." Since the publication of this paper I have received the following microscopical report, which I append, thus completing the history of case No. XV.:

ARMY MEDICAL MUSEUM AND LIBRARY, S. G. OFFICE,
509 TO 515 TENTH STREET, N. W.,
WASHINGTON, D. C., *November* 24, 1886.

DR. J. TABER JOHNSON,
Washington, D. C.

DEAR SIR: The large cystic tumor of the ovary, received at the Army Medical Museum on the 17th instant, has been examined by the microscopist, Dr. William M. Gray, who reports: "Microscopic examination of a piece of the wall, and of a mass from the interior resembling a piece of fat, shows small round and spindle cell alveolar sarcoma."

Very respectfully, your obedient servant,

JOHN S. BILLINGS,
Surgeon, U. S. Army, Curator Army Medical Museum.

I also append Dr. Billings' report of the condition of the ovaries removed from case No. XIV.:

WAR DEPARTMENT, SURGEON GENERAL'S OFFICE,
MUSEUM AND LIBRARY DIVISION,
WASHINGTON, D. C., *Nov.* 29, 1886.

SIR: I am instructed by the Surgeon General to acknowledge the receipt on the 24th of November, 1886, of the following specimens, viz.: Ovaries showing atrophy and a few small cysts, with the accompanying history, forwarded by you the 24th of November, 1886, for the Army Medical Museum.

Very respectfully, your obedient servant,

JOHN S. BILLINGS,
Surgeon, U. S. Army, Curator Army Medical Museum.

To Dr. J. TABER JOHNSON,
926 *Seventeenth St., N. W., Washington, D. C.*